

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

SF 601
U.S.
of 1

FOREIGN ANIMAL
DISEASES REPORT



MAY-1973

EXOTIC NEWCASTLE DISEASE
ACTIVITIES REPORT



During the period March 22, to April 23, 1973, exotic Newcastle disease was diagnosed in two layer flocks consisting of approximately 133,000 birds. Eight other flocks comprised of slightly more than 57,000 birds were determined to be exposed. One infected and two exposed flocks consisting of 149,000 birds owned by a single poultryman were in the Yucaipa area of San Bernardino County. The other positive and one exposed flock consisting of 21,150 birds were also owned by a single poultryman and were located in the Bloomington area of San Bernardino County, California. The other five exposed flocks consisted of 96 backyard birds and were located in the Yucaipa and Bloomington areas of San Bernardino County and the Hemet area of Riverside County.

The Epidemiological Necropsy Surveillance Program (ENSP) was responsible for detecting infection in the two cases. ENSP coverage is being maintained at 92 percent of the commercial flocks in an area consisting of Orange, Los Angeles, Riverside, San Bernardino, Ventura, and San Diego Counties. The positive case in Bloomington, Calif., was confirmed on March 30, 1973. The other positive case was confirmed on April 3, 1973. Immediately after confirmation of the disease in these two flocks, sentinel birds were placed in the non-exposed flocks in the area. Over 15 days have elapsed since these sentinels were placed, and they have remained negative to Newcastle disease as evidenced by the hemagglutination inhibition test. There has been no evidence of exotic Newcastle disease either in the sentinel birds or in the other birds of the flock.

As of April 23, 1973, some 72 flocks consisting of approximately 11,280,000 birds in southern California had been determined to be infected with or exposed to exotic Newcastle disease since the declaration of the national emergency on March 14, 1972.

These birds were appraised at approximately \$21,360,000. Currently, the supplemental indemnity amounts to approximately \$2,340,000. It is based on evaluation of layers as egg-laying machines during a 26-week period following

the date of appraisal of the infected or exposed birds. Over 112,851,000 individual bird vaccinations have been performed under program supervision. Over 17,540,000 birds have been vaccinated during the fourth round of vaccination.

On April 16, 1973, the State-Federal Newcastle Disease Task Force announced that it will no longer require vaccination of poultry in southern California. Consequently, no vaccine will be provided to poultrymen and no payment will be made for its administration by the Government. It has been emphasized that the reason the Task Force has originally supplied vaccine and overseen its administration was to control the spread of exotic Newcastle disease by reducing the number of birds infected in a flock and the amount of virus produced by the sick birds. The use of vaccine assisted in preventing the spread of exotic Newcastle disease to other areas of California. As a result of a drastic reduction in the incidence of the disease and a corresponding reduction in the area under quarantine, Task Force has determined that the support and supervision of vaccination was no longer justifiable as a part of the exotic Newcastle disease eradication effort. Incidentally, since domestic Newcastle disease still exists as an endemic disease of poultry in the United States, many poultrymen may continue to vaccinate their flocks against Newcastle disease to prevent losses from the domestic strain of the virus.

During the week of April 16-20, 1973, five of the Nations's leading poultry and epidemiological scientists convened in Riverside to study disease eradication methods used by the State-Federal Newcastle Disease Task Force. The primary objective of the review was to make recommendations for more effective epidemiological procedures to assist in determining the causes of continued incidence of the disease as well as to determine the source of infection in each outbreak.

No further cases of exotic Newcastle disease have been confirmed in the Los Ebanos area of Hidalgo County, Texas. Intensive surveillance and investigations, including the use of sentinel birds, indicate that the area is free of exotic Newcastle disease. If no further cases are detected, the quarantined area comprised of portions of Starr and Hidalgo Counties will be eligible for release on May 3, 1973.

REGULATION CHANGES AND QUARANTINE ACTIONS ... On April 12, 1973, two premises in the Bloomington area of San Bernardino County were placed under quarantine for exotic Newcastle disease.

The press release dated April 6, 1973, announced a change in the quarantine restrictions to aid Puerto Rican poultrymen. It indicated that effective April 10, 1973, the U.S. Department of Agriculture has eased its quarantine restrictions on moving poultry shipping crates (coops) to reduce the cost of exporting replacement layers to Puerto Rico. The Island has been under a quarantine for exotic Newcastle disease since January 1972. The change will permit the reuse of plastic and metal coops used to ship pullets to Puerto Rico. Following a thorough cleaning and disinfection, the coops will be allowed to be returned to the U.S. mainland. Prior to the change, regulations prohibited coops used to transport poultry to be shipped interstate from a quarantined area. The easing of these restrictions is possible since the hard plastic or

metal coops can be effectively cleaned and disinfected. This procedure will prevent mechanical transmission of the disease agent. The cleaning and disinfecting, however, will need to be done under the supervision of a Federal or Commonwealth inspector.

HOG CHOLERA ERADICATION

Presently, the hog cholera eradication program continues on an emergency basis. Fourteen confirmed cases of hog cholera were reported during the first quarter of 1972: Nine in January, three in February, two in March, and none in April.

The most recent confirmed case of hog cholera in the continental United States was diagnosed in Virginia on February 7, 1973. The two cases in March (March 22 and 23) occurred in Puerto Rico. Today, only Puerto Rico remains under the Federal quarantine for hog cholera.

On April 17, North Carolina returned to Phase IV, after no clinical signs of the disease had been observed in the State for three months following depopulation of its last confirmed case which occurred on January 17. North Carolina is one of the three States that never reached "hog cholera free" status. New Jersey and Texas are the other two. As yet, Puerto Rico has not reached "free" status.

Currently, 41 States are classified as free of hog cholera. Five States -- Georgia, Ohio, North Carolina, South Carolina, and Tennessee -- plus Puerto Rico are now in Phase IV. Four States -- Indiana, New Jersey, Texas, and Virginia -- are in Phase III.

During the past two months the number of suspicious hog cholera cases dropped considerably. During this period, the numbers of cases investigated weekly have ranged from 33 to 58 with an average of 44 per week. The weekly average of cases investigated from July 1 through December 31, 1972, was 92.

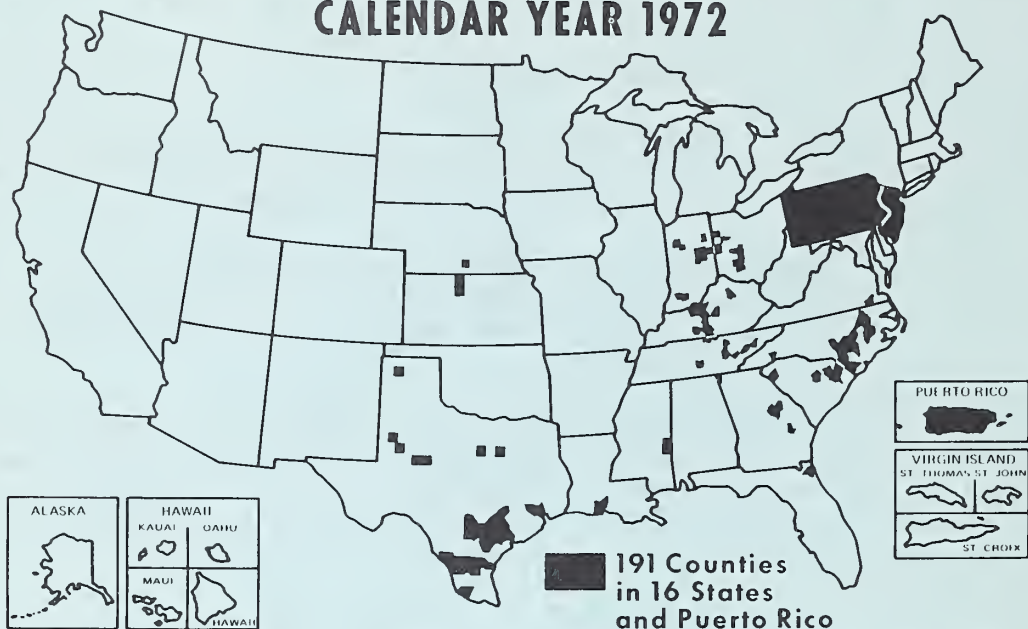
Nine States currently ban feeding of garbage to swine. These States are: Alabama, Georgia, Louisiana, Mississippi, Illinois, Iowa, South Dakota, Virginia, and Wisconsin. Soon they will be joined by Idaho and South Carolina, in which garbage feeding has been banned effective July 1, 1973.

The legislature of the State of Maryland has recently passed a law banning garbage feeding to pigs effective January 1, 1974.

In the State of New York the date for prohibiting garbage feeding has been moved up to mid 1975 (formerly 1980). In this State garbage feeding is limited to those establishments which are already licensed, and no new licenses are being issued. The type of garbage that may be fed to swine is limited to food waste picked up at universities and hospitals. The use of restaurant or street garbage is prohibited.

Over 18 percent of the hog cholera cases in 1972 were diagnosed in garbage-fed herds.

COUNTIES IN WHICH FEDERAL HOG CHOLERA QUARANTINES WERE IN EFFECT WITHIN CALENDAR YEAR 1972



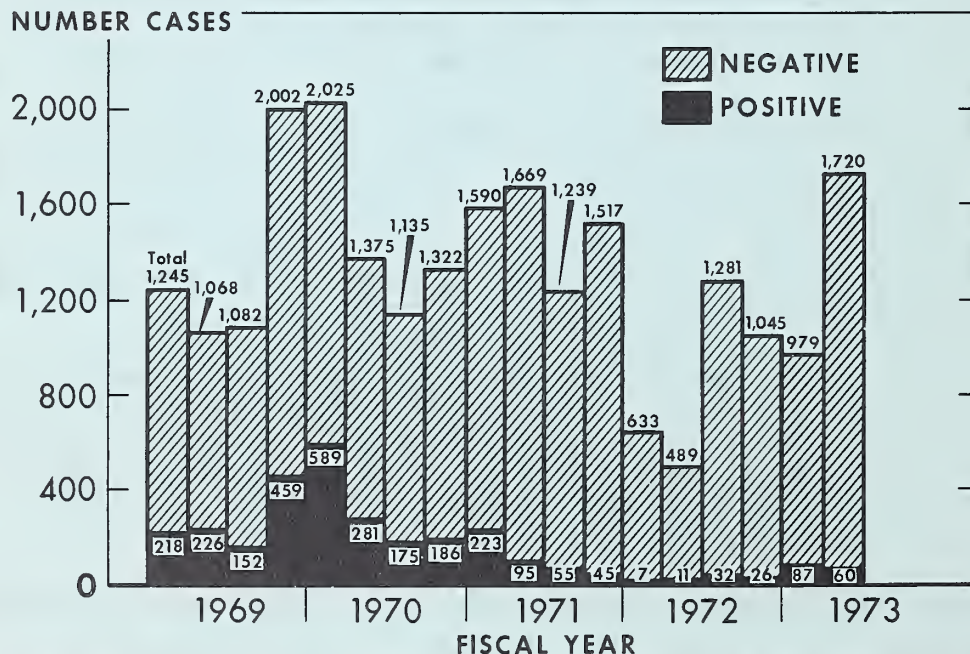
U.S. DEPARTMENT OF AGRICULTURE

VETERINARY SERVICES

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

HOG CHOLERA CASES REPORTED

By Quarter



U.S. DEPARTMENT OF AGRICULTURE

VETERINARY SERVICES

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

VEE ACTIVITIES SUMMARY FOR 1972

Surveillance ... During calendar year 1972, a total of 1,068 investigations was made of suspected equine encephalomyelitis cases. Of this number, 452 were positive for Western equine encephalomyelitis (WEE), and 32 were positive for Eastern equine encephalomyelitis (EEE), with no cases of Venezuelan equine encephalomyelitis (VEE). In other surveillance activities, 1,241,207 mosquitoes, and 15,330 mammal serum samples were collected. There was no indication of epidemic VEE viral activity in the United States. Thus it is reasonable to assume that the epidemic VEE virus did not become established in Texas in 1971.

End of Emergency ... The VEE emergency was ended effective October 31, 1972, and the Federal quarantine on the state of Texas for VEE was released in a companion action.

Duration of Immunity ... At the Animal Disease Research Laboratory, Denver, Colo. studies on the duration of immunity from TC-83 vaccine revealed that all horses challenged eighteen months after vaccination resisted challenge with an epidemic strain of VEE virus.

Vaccination Recommendation ... An immune equine population is, in our opinion, the best method for preventing an epidemic of VEE, and therefore, all horses in the United States should be vaccinated against VEE. The U.S. Department of Agriculture strongly recommends that all horses in the States of Texas, New Mexico, Arizona, and the southern part of California be vaccinated against VEE during 1973, whether previously vaccinated or not, because of the great danger of VEE again entering this country from Mexico.

Mexico VEE in 1972 ... During 1972, VEE occurred in the central region around Mexico City, as well as the States of Zacatecas and Durango; however, the greatest threat to the United States proceeded up the western coastline of Mexico from the states of Colima, Jalisco and Nayarit, through the state of Sinaloa, and ended in the state of Sonora near Hermosillo about the middle of September. Hermosillo is approximately 150 miles south of Nogales, Arizona. The Mexican Government vaccinated horses at no expense to the owners during 1972 in the entire country.

VEE SURVEILLANCE PLANS FOR 1973

During 1973, Veterinary Services plans to cooperate closely with Mexican authorities in surveillance of the disease in equidae, mosquitoes, and small mammals. The most important part of Venezuelan equine encephalomyelitis surveillance will continue to be the prompt investigation of all suspicious cases of equine encephalomyelitis throughout the United States. Laboratory tests will differentiate between Eastern, Western, and Venezuelan equine encephalomyelitis. In addition, mosquito collections will be made routinely along the entire Mexican border from Brownsville, Texas to San Diego, California. Cooperation with the United States Public Health Service and State and local agencies will be continued as in 1972.

(Prepared by Programs Development and Application of Veterinary Services, presently responsible for VEE activities).

VECTOR CONTROL TRAINING FOR HOG CHOLERA ERADICATION

A three-day training course was held from April 17-19, 1973, in Beltsville and Hyattsville, Maryland on Vector Control Training for Hog Cholera Eradication. Nine Veterinary Services and eight Plant Protection and Quarantine Programs personnel from 16 States received training. The course was designed to prepare participants to supervise vector spray operations in support of the hog cholera emergency program and similar vector control programs.

The training, provided by personnel of Veterinary Services, Plant Protection and Quarantine Programs, and the Agricultural Research Service, considered such topics as: Vector biology, surveillance, and control; negotiation and supervision of contracts; personal and environmental protection; and equipment utilization. Trainees will now be available for assignment to task force headquarters in the field when the need for vector control measures are indicated.

ACTIVITIES OF NEWCASTLE DISEASE TASK FORCE AT RIVERSIDE, CALIFORNIA

Surveillance ... One of the first jobs of the Task Force was to mobilize manpower for surveillance of the 54 million chicks, 3.5 million turkeys and the thousands of cage-birds and exotic birds in southern California. The main objectives of surveillance were to ensure that every susceptible bird had been lined up for vaccination, that cases of suspected infection were reported for investigation, and that owners had been informed about and obeyed the quarantine regulations. Extensive surveys were launched to obtain agreements with the owners of commercial flocks for the use of government-hired vaccination crews or owner-hired vaccination crews. Aviaries and exotic bird importers were visited and asked not to move their imported psittacine or mynah birds until after the Task Force had checked them for the possible infection with the exotic Newcastle disease virus.

Surveillance of backyard flocks was an enormous task but it was most successful in picking up flocks which had been missed by the vaccination teams. The number of personnel had rapidly increased to cope with the surveillance work. In Riverside and San Bernardino Counties the Task Force conducted surveillance every two weeks of 250,000 birds on 11,000 premises. The counties were mapped into sections with lists of street routes. The owners' addresses and telephone numbers were obtained from vaccination slips, and teams of 3 to 5 personnel would comb each section door-to-door. Aviaries, feed stores, and pet stores were inspected. Reminder cards were distributed to the owners supplying the essential information, including a Task Force telephone number to call collect in case of the suspected presence of disease on the premises. A review of the backyard investigations made during the surveillance program revealed that 75 percent of backyard investigations were made as a result of visits by the Task Force personnel. Door-to-door surveillance of all flock owners was conducted every week.

By July 1972, the disease had subsided to the point where it was deemed safe to reduce the number of premise inspections. Regular contact with the management

of commercial flocks was maintained by the requirement to submit a weekly report on the health status of flocks. The report required brief notes on weekly mortality, egg production, feed consumption, eggshell quality, etc. Handbills were also distributed to maintain contact with the owners of backyard flocks, aviaries, feed stores, etc. The scheme not only served to lighten the workload of the Task Force by also answered the complaints of some managers claiming that they were being "visited too frequently at a time when they were trying to discourage visitors to their premises to reduce the chances of disease spread." However, the co-operation in the surveillance by mail steadily worsened, and less than 50 percent of the flocks contacted by mail continued to send in reports regularly. The efforts to switch to telephone reporting failed.

Before releasing areas from quarantine, surveillance teams inspected all backyard flocks in a few smaller scattered areas selected according to a statistically valid plan of random selection. This technique, combined with the use of sentinel birds, proved to be most valuable in determining if quarantines could be safely released. The dependence upon sentinel birds was gradually increasing and this program was given high priority in the ensuing months.

Epidemiological Necropsy Surveillance Program (ENSP) ... Surveillance based on "dead bird pick-ups" was developed for use primarily in commercial flocks. Birds dead overnight were sealed in plastic bags and left at the ranch gate to be picked up by the Task Force personnel that morning. The birds were generally six to a bag and were delivered to the San Gabriel Laboratory by 2 p.m. They were picked up twice weekly from each commercial flock on a fixed schedule by Task Force personnel, a team of five averaging 100 stops a day.

In October 1972, an Epidemiological Necropsy Surveillance Program was established to oversee the "dead bird pick-up" and it rapidly developed into a useful diagnostic tool. In the last quarter of 1972, eight commercial flocks were confirmed positive using the ENSP, in addition to the eleven flocks picked out by sentinel birds.

Summary of Flocks Diagnosed between October 1, and December 31, 1972.

Diagnostic Material	No. Flocks Positive	No. Positive by Field Lesions	No. Positive by Lab. Lesions	No. Positive by Lab. Virus Isolation
Sentinel Birds	11	3	6	9
ENSP Birds	8	1	3	4
Other Birds	19	9	3	8
Total	38	13	12	21

During this period, of all flocks infected with the exotic Newcastle disease, 66 percent showed lesions on necropsy. The ENSP birds provided 10 percent and sentinel birds a further 25 percent of the positive necropsies. Based on virus isolation, 55 percent of all infected flocks proved positive to exotic Newcastle disease.

Virus was isolated in 10 percent of the infected flocks from ENSP specimens and sentinels yielded virus in a further 25 percent of the flocks tested.

From the start, reactions of commercial poultry flock owners to ENSP were favorable, with none of the refusals and setbacks experienced in the sentinel bird program. The number of commercial flocks regularly submitting good specimens rapidly rose to nearly 100 percent by the end of the year. The pet bird industry steadily increased its submissions of dead birds, and special units were created in the Task Force to supervise the program and handle the increased work-load.

The success of the ENSP depended largely on the cooperation of industry. Owners were asked to submit birds which had obviously died from disease, and not from other causes such as mechanical injury. The most recently dead carcasses were requested to increase the chances of virus isolation, while those dead more than 24 hours were rejected. Dead birds were selected from as many different age groups as possible to provide the best representative sample of the flock. After a "spotty" start, the standard of submissions was excellent throughout the program.

By mid-March, 1973, 477 commercial flocks in several Counties were making regular submissions, the coverage being as follows:

Ventura	100 percent
Los Angeles	100 percent
Orange	97 percent
Riverside	94 percent
San Bernardino	92 percent
San Diego	86 percent
Overall	91 percent

The following chart gives the number of birds desired for each submission depending on the size of the flock.

Epidemiological Necropsy Surveillance Program
Sample Chart

Size of Flock	Minimum Birds Required
Under 5,000	all fresh dead (minimum 8 per month)
5,001 - 20,000	4 birds per submission
20,001 - 50,000	6 birds per submission
50,001 - 100,000	15 birds per submission
Over 100,000	30 birds per submission with a minimum of 2 birds per house or unit

Diagnostic Investigations ... In the early days of the outbreak, most diagnostic investigations in the field were initiated when sick or dead birds were reported by owners or Task Force inspectors. At that time a typically infected flock would show high morbidity and sudden cessation of egg production with mortality up to 100 percent within 7-10 days of the first signs of disease. Birds would commonly show definite and dramatic signs of the disease with typical lesions on

field necropsy including severe hemorrhages of the trachea, proventriculus, intestines and cecal tonsils, often with an edema of the cervical tissues near the thoracic inlet and ulcers in the terminal part of the gastro-intestinal tract.

By early summer 1972, an increasing number of infected flocks was showing lesions on necropsy which were less typical, accompanied by low morbidity, slightly reduced egg-production and low mortality. This was particularly common in adequately vaccinated older age groups. The typical picture was largely confined to young replacement chicks and to incompletely immunized pullets. The disease was "masked" by vaccination, whereby circulating antibodies in the blood were partially protecting the birds from infection. Birds with "masked" infection could produce virus in the epithelial cells of the respiratory and gastro-intestinal tracts and continue to release large quantities of highly infective virus into the environment for several weeks. As these birds did not show obvious clinical signs of disease or typical lesions on field necropsy, additional diagnostic procedures were required for an early detection of the disease.

Sentinel birds were introduced to diagnose the presence of an exotic ND virus in infected flocks and also to evaluate areas where the disease was believed to have been eradicated.

The merits of sentinel birds are clearly depicted in the following table:

Type and Number of Submissions	<u>Percentage of Positive Virus Isolations</u>			
	Trachea	Cloaca	Brain	Lungs
Vaccinated Birds (27)	54	46	35	50
Sentinel Birds (37)	95	92	90	92

By December 31, 1972, sentinel birds had been instrumental in uncovering 20 infected commercial flocks which might otherwise have remained undetected for several weeks.

Another innovation was the Epidemiological Necropsy Surveillance Program described above in this report, based on picking up dead birds at ranches for laboratory examination. This program also speeded up diagnosis by detecting the exotic ND in 11 infected commercial flocks by the end of the year. In many cases the owners themselves had been unaware of any exotic ND infection in their flocks.

Diagnostic investigations were also aided by a mail surveillance program whereby commercial flocks mailed in weekly reports showing figures for mortality, egg-production and feed consumption. If anything unusual appeared in the report, the owner was contacted and the situation investigated.

Positive and Exposed Cases Diagnosed Since March 14, 1972
(By Daily Report through Dec. 26, 1972)

	POSITIVE		EXPOSED		Total Birds	Total Flocks
	Flocks	Birds	Flocks	Birds		
Commercial Flocks	110	8,671,231	20	646,358	9,317,589	130
Backyard Flocks	162	11,182	399	11,572	22,754	561
Game Birds*	6	9,527	8	17,499	27,026	14
Pigeons	10	1,235	11	274	1,509	21
Household Aviary	8	205	48	632	837	56
Commercial Aviary	15	10,809	4	588	11,397	19
Turkeys	3	40,548	--	--	40,548	3
Totals	314	8,744,737	490	676,923	9,421,660	804

*Pheasants and Quail only.

MEETING OF THE FOOT-AND-MOUTH DISEASE ADVISORY COMMITTEE

The Secretary of Agriculture's Advisory Committee on Foot-and-Mouth Disease (FMD) met in Washington, D.C., on April 16-17, 1973. Representatives of the live-stock industry, particularly those engaged in feedlot operations, were also in attendance.

The committee meets periodically to review plans and make recommendations for combatting an outbreak of FMD, should it be introduced into this country.

Topics covered in the two-day meeting included: a review of the FMD situation in eastern Europe, the increased threat posed by the completion of the Pan American Highway, the plans for an animal import facility at Fleming Key, Florida, and a review of APHIS emergency eradication plans to combat the introduction of FMD and other foreign animal diseases.

SWINE VESICULAR DISEASE IN ENGLAND

Several recent notices on the swine vesicular disease (SVD) situation in England, dated February 28, and March 1, 2, 5, 6, 7, and 14, 1973, indicate that additional outbreaks of SVD have been confirmed. These outbreaks occurred at various locations of Yorkshire, Derbyshire, Staffordshire, Manchester, Hertfordshire, England, and at Lasswade in Scotland. Approximately 3,000 pigs were involved.

Since the first outbreak of the disease was confirmed in Staffordshire on December 11, 1972, there have been 75 outbreaks of swine vesicular disease and a total of 35,691 pigs have been slaughtered.

Several areas throughout England, previously infected, were freed from infected area restrictions.

(Adapted from the official Press Notices of February 28, and March 1, 2, 5, 6, 7, and 14, 1973, issued by the Ministry of Agriculture, Fisheries and Food).

RENEWED OUTBREAKS OF NEWCASTLE DISEASE IN ISRAEL

While Newcastle disease is endemic in Israel's poultry flocks, new outbreaks between March 1972 and January 1973, had been infrequent and isolated. During early weeks of March a considerable number of new cases were reported to the Veterinary Services. The number of new flocks affected is larger than the natural increase in outbreaks to be expected during the winter months. Most seriously affected are a number of broiler producers in various parts of the country. The Chief Veterinary Officer stated to the reporting officer that only two regions -- Acre (Western Galilee) and Beer Sheva (Northern Negev) -- are completely free of the disease.

The Veterinary Services, in cooperation with the Poultry Department and the Extension Services of the Ministry of Agriculture are now trying to introduce better control measures, such as the immediate eradication of affected flocks and effective quarantines.

(From American Embassy, Tel Aviv, Israel memo to U.S. Department of Agriculture, dated March 13, 1973).

TYPING OF THE FOOT-AND-MOUTH DISEASE VIRUS WORLD REFERENCE LABORATORY FOR FOOT-AND-MOUTH DISEASE VIRUS PIRBRIGHT (GREAT BRITAIN) Cumulative Quarterly Report

During the period October 1, to December 31, 1972, 66 samples from 11 countries have been examined for type of virus (and subtype where shown). Virus was demonstrated in 34 of these samples (52.3 percent). The origins of these samples and types of virus recovered are tabulated below:

Country	No. of samples	O	A	C	SAT ₁	SAT ₂	SAT ₃	ASIA 1	No. virus recovered	Pending
Angola	1								1	
Hong Kong	6	3							2	1
Indonesia (Java)	1	1								
Jordan	7	5							6	
Lebanon	2								2	
Libya	3	3								
Nigeria	6				2					
Philippines	4	4								
Rhodesia	5				1	4				
Turkey	7	5	2							
Uganda	24	2			2				20	
Total	66	23	2		5	4			31	1

The positive results were obtained in tests using: Complement fixations tests on original material in 8 cases = 23.5 percent complement fixation tests after passage in tissue culture in 26 cases = 76.5 percent. An addition number of samples were sent for subtyping and all were identified as C subtypes. From the total number of 4 samples, 2 came from Hungary, and 1 from each Belgium and Romania.

(Adapted from Information Note No. 314 (u), World Reporting Service on the Evolution of Epizootics, International Office of Epizootics).

VESICULAR DISEASES IN THE WESTERN HEMISPHERE*

Country	Period 1973	O	FMD		V.S.	
			A	C	N.J.	Ind.
Argentina	Jan.-March	148	77	-	-	-
Brazil	Jan.-Feb.	15	18	43	-	-
Colombia	Jan.-Feb.	15	24	-	16	13
Ecuador	Feb.-March	14	-	-	-	-
Peru	March	1	1	-	-	-
Uruguay	February	-	1	-	-	-
Venezuela	March	-	2	-	-	-

In all instances, the diagnosis was based on samples from vesicular diseases outbreaks notified by Animal Health Authorities of the Americas.

Peru ... No field samples were received during the second half of February 1973.

Venezuela ... No samples of vesicular disease were diagnosed during February 1973.

Mexico ... Reported the absence of vesicular disease cases during the first half of March 1973.

Paraguay ... Reported the absence of foot-and-mouth disease during the first half of March 1973.

(*Adapted from Pan-American Foot-and-Mouth Disease Center, Epidemiological Reports, Vol. 5, Nos. 5-6, March 1-15 and 16-31, 1973).

CZECHOSLOVAKIA FREE OF SWINE VESICULAR DISEASE

Czechoslovakian State Veterinary Service has advised the American Embassy that Czechoslovakia is free of swine vesicular disease (SVD).
(Department of State, telegram of March 15, 1973).